SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: 2-(Dimethylamino)ethyl methacrylate

Product Number: 234907
Brand: Aldrich
Index-No.: 607-132-00-3
CAS-No.: 2867-47-2

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company: Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO  63103
UNITED STATES

Telephone: +1 314 771-5765
Fax: +1 800 325-5052

1.4 Emergency telephone

Emergency Phone #: 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

- Flammable liquids (Category 4), H227
- Acute toxicity, Oral (Category 4), H302
- Acute toxicity, Dermal (Category 4), H312
- Skin corrosion (Category 1B), H314
- Serious eye damage (Category 1), H318
- Skin sensitization (Category 1), H317
- Short-term (acute) aquatic hazard (Category 3), H402

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Aldrich - 234907
Pictogram

Signal Word: Danger

Hazard statement(s)
- H227: Combustible liquid.
- H302 + H312: Harmful if swallowed or in contact with skin.
- H314: Causes severe skin burns and eye damage.
- H317: May cause an allergic skin reaction.
- H402: Harmful to aquatic life.

Precautionary statement(s)
- P210: Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
- P261: Avoid breathing mist or vapors.
- P264: Wash skin thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P272: Contaminated work clothing must not be allowed out of the workplace.
- P273: Avoid release to the environment.
- P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P301 + P312 + P330: IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
- P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- P304 + P340 + P310: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
- P305 + P351 + P338 + P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
- P333 + P313: If skin irritation or rash occurs: Get medical advice/ attention.
- P363: Wash contaminated clothing before reuse.
- P370 + P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
- P403 + P235: Store in a well-ventilated place. Keep cool.
- P405: Store locked up.
- P501: Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Lachrymator.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms: Methacrylic acid 2-(dimethylamino)ethyl ester

Formula: C₈H₁₈NO₂
Molecular weight: 157.21 g/mol
The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Dimethylaminoethyl methacrylate</td>
<td>Flam. Liq. 4; Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; Skin Sens. 1; Aquatic Acute 3; H227, H302, H312, H314, H318, H317, H402</td>
<td>&lt;= 100 %</td>
</tr>
<tr>
<td>Hydroquinone monomethyl ether</td>
<td>Acute Tox. 4; Eye Irrit. 2A; Skin Sens. 1; Aquatic Acute 2; Aquatic Chronic 3; H302, H319, H317, H401, H412</td>
<td>&gt;= 0.1 - &lt; 1 %</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

**SECTION 4: First aid measures**

4.1 **Description of first-aid measures**

**General advice**
First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

**If inhaled**
After inhalation: fresh air. Call in physician.

**In case of skin contact**
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.

**In case of eye contact**
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

**If swallowed**
After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 **Most important symptoms and effects, both acute and delayed**
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 **Indication of any immediate medical attention and special treatment needed**
No data available
SECTION 5: Firefighting measures

5.1 Extinguishing media

**Suitable extinguishing media**
Carbon dioxide (CO2) Foam Dry powder

**Unsuitable extinguishing media**
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Carbon oxides
Nitrogen oxides (NOx)
Combustible.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air on intense heating.
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information
Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

**Advice on protection against fire and explosion**
Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.
Hygiene measures
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage stability
Recommended storage temperature
2 - 8 °C

Moisture sensitive. Light sensitive.

Storage class
Storage class (TRGS 510): 6.1A: Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydroquinone monomethyl ether</td>
<td>150-76-5</td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>USA. NIOSH Recommended Exposure Limits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL</td>
<td>5 mg/m3</td>
<td>California permissible exposure limits for chemical contaminants (Title 8, Article 107)</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Appropriate engineering controls
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other
substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact
Material: butyl-rubber
Minimum layer thickness: 0.7 mm
Break through time: 480 min
Material tested: Butoject® (KCL 898)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.4 mm
Break through time: 120 min
Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

**Body Protection**

**protective clothing**

**Respiratory protection**
Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds
The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented. required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

**Control of environmental exposure**
Do not let product enter drains.

---

**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a) Appearance</strong></td>
<td>Form: clear, liquid</td>
</tr>
<tr>
<td></td>
<td>Color: light yellow</td>
</tr>
<tr>
<td><strong>b) Odor</strong></td>
<td>amine-like</td>
</tr>
<tr>
<td><strong>c) Odor Threshold</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>d) pH</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>e) Melting point/freezing point</strong></td>
<td>Melting point/freezing point: -30 °C (-22 °F) at ca.1,013 hPa</td>
</tr>
<tr>
<td><strong>f) Initial boiling point and boiling range</strong></td>
<td>182 - 192 °C 360 - 378 °F - lit.</td>
</tr>
<tr>
<td><strong>g) Flash point</strong></td>
<td>64 °C (147 °F) - closed cup</td>
</tr>
</tbody>
</table>
h) Evaporation rate  No data available
i) Flammability (solid, gas)  No data available
j) Upper/lower flammability or explosive limits  Lower explosion limit: 1.2 % (V)
k) Vapor pressure  < 1 hPa at 25 °C (77 °F)
l) Vapor density  5.43 - (Air = 1.0)
m) Density  0.933 g/cm³ at 25 °C (77 °F) - lit.
   Relative density  No data available
n) Water solubility  1,000 g/l at 20 °C (68 °F) - miscible
o) Partition coefficient: n-octanol/water  log Pow: 1.13 at 25 °C (77 °F)
p) Autoignition temperature  200 °C (392 °F) at 1,005 hPa
q) Decomposition temperature  No data available
r) Viscosity  1.47 mm²/s at 20 °C (68 °F) - OECD Test Guideline 114 -
s) Explosive properties  No data available
t) Oxidizing properties  none

9.2 Other safety information
   Dissociation constant  8.44 at 25 °C (77 °F)
   Relative vapor density  5.43 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity
   Forms explosive mixtures with air on intense heating.
   A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.2 Chemical stability
   The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions
   Risk of ignition or formation of inflammable gases or vapours with:
   Strong oxidizing agents
   Violent reactions possible with:
   polymerisation initiators
   peroxi compounds
   strong reducing agents
   strong alkalis
   Strong acids
10.4 **Conditions to avoid**
Strong heating.

10.5 **Incompatible materials**
rubber, Copper, Strong oxidizing agents

10.6 **Hazardous decomposition products**
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 **Information on toxicological effects**

**Acute toxicity**
Acute toxicity estimate Oral - 1,751 mg/kg
(Calculation method)
LD50 Oral - Rat - 1,751 mg/kg
Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract., Nausea, Vomiting
Remarks: (RTECS)
Inhalation: No data available
Acute toxicity estimate Dermal - 1,100 mg/kg
(Calculation method)
Acute toxicity estimate Dermal - 1,100 mg/kg
(Expert judgment)
Acute toxicity estimate Dermal - Expert judgment - 1,100 mg/kg
No data available

**Skin corrosion/irritation**
Skin - Rabbit
Result: Causes burns.
Remarks: (ECHA)

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: Corrosive
Remarks: (ECHA)

**Respiratory or skin sensitization**
Maximization Test - Guinea pig
Result: positive
(OECD Test Guideline 406)

**Germ cell mutagenicity**
Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster lung cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
Test Type: Mutagenicity (mammal cell test): chromosome aberration.
Test system: Chinese hamster lung cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: Positive results were obtained in some in vitro tests.
Test Type: Ames test
Test system: Salmonella typhimurium  
Metabolic activation: without metabolic activation  
Method: OECD Test Guideline 471  
Result: Positive results were obtained in some in vitro tests.

Test Type: Micronucleus test  
Species: Mouse

Application Route: Intraperitoneal  
Method: OECD Test Guideline 474  
Result: negative

Test Type: Micronucleus test  
Species: Mouse

Application Route: Oral  
Method: OECD Test Guideline 474  
Result: negative

**Carcinogenicity**

<table>
<thead>
<tr>
<th>Agency</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>IARC</td>
<td>No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.</td>
</tr>
<tr>
<td>NTP</td>
<td>No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.</td>
</tr>
<tr>
<td>OSHA</td>
<td>No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.</td>
</tr>
</tbody>
</table>

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Additional Information**

RTECS: OZ4200000  
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

---

**SECTION 12: Ecological information**

**12.1 Toxicity**

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>semi-static test LC50 - Oryzias latipes - 19.1 mg/l - 96 h (OECD Test Guideline 203)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to daphnia</td>
<td>semi-static test EC50 - Daphnia magna (Water flea) - 33 mg/l - 48 h</td>
</tr>
</tbody>
</table>
The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada.

...and other aquatic invertebrates (OECD Test Guideline 202)

Toxicity to algae

Toxicity to algae static test ErC50 - Scenedesmus capricornutum (fresh water algae) - 69.7 mg/l - 72 h
(OECD Test Guideline 201)

Toxicity to daphnia and other aquatic invertebrates (chronic toxicity)

Toxicity to daphnia and other aquatic invertebrates (semi-static test NOEC - Daphnia magna (Water flea) - 4.35 mg/l - 21 d
(OECD Test Guideline 211)

12.2 Persistence and degradability

Biodegradability

- aerobic - Exposure time 28 d
- Result: 95.3 % - Readily biodegradable.
- Remarks: (ECHA)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

- PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

- Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

- Waste material must be disposed of in accordance with the national and local regulations.
- Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

DOT (US)

UN number: 2522 Class: 6.1 Packing group: II

Proper shipping name: 2-Dimethylaminoethyl methacrylate

Reportable Quantity (RQ): Poison Inhalation Hazard: No

IMDG

UN number: 2522 Class: 6.1 Packing group: II EMS-No: F-A, S-A

Aldrich - 234907
Proper shipping name: 2-DIMETHYLAMINOETHYL METHACRYLATE, STABILIZED

**IATA**
UN number: 2522   Class: 6.1   Packing group: II
Proper shipping name: 2-Dimethylaminoethyl methacrylate, stabilized

**SECTION 15: Regulatory information**

**SARA 302 Components**
This material does not contain any components with a section 302 EHS TPQ.

**SARA 313 Components**
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**
Fire Hazard, Acute Health Hazard

**Massachusetts Right To Know Components**  
2-Dimethylaminoethyl methacrylate  
CAS-No. 2867-47-2  Revision Date 2007-03-01

**Pennsylvania Right To Know Components**  
2-Dimethylaminoethyl methacrylate  
CAS-No. 2867-47-2  Revision Date 2007-03-01

**SECTION 16: Other information**

**Further information**
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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